

## 2GR-FE COOLING

### SERVICE DATA

#### THERMOSTAT

Condition	Specified Condition
Standard valve opening temperature	80 to 84°C (176 to 183°F)
Standard valve lift	10 mm (0.39 in.) or more at 95°C (203°F)

#### COOLING FAN MOTOR

Item	Indication Mark	Motor Type	Condition	Specified Condition
No. 1 cooling fan motor (w/o Trailer towing system)	E	160 W	at 20°C (68°F)	11.8 to 14.8 A
No. 1 cooling fan motor (w/ Trailer towing system)	H	240 W	at 20°C (68°F)	18.0 to 22.0 A
No. 2 cooling fan motor (w/o Trailer towing system)	E	160 W	at 20°C (68°F)	11.8 to 14.8 A
No. 2 cooling fan motor (w/ Trailer towing system)	H	240 W	at 20°C (68°F)	18.0 to 22.0 A

#### COOLING FAN ECU

Item	Tester Connection	Condition	Specified Condition
Cooling fan ECU (w/o Trailer towing system)	B12-3 - Body ground	Ignition switch ON	9 to 14 V
	B12-1 - Body ground	Always	Below 1 $\Omega$
Cooling fan ECU (w/ Trailer towing system)	B10-1 - Body ground	Ignition switch ON	9 to 14 V
	B11-1 - Body ground	Ignition switch ON	9 to 14 V
	B10-3 - Body ground	Always	Below 1 $\Omega$
	B11-3 - Body ground	Always	Below 1 $\Omega$

#### COOLING FAN RELAY

Item	Tester Connection	Specified Condition
No. 1 fan relay	3 - 5	10 $\Omega$ or higher
	3 - 5	Below 1 $\Omega$ (when battery voltage is applied to terminals 1 and 2)
No. 2 fan relay	3 - 5	10 $\Omega$ or higher
	3 - 5	Below 1 $\Omega$ (when battery voltage is applied to terminals 1 and 2)

#### RADIATOR

Item	Tester Connection	Specified Condition
Radiator reservoir cap	For brand-new cap	93.3 to 122.7 kPa (0.95 to 1.25 kgf/cm <sup>2</sup> , 13.5 to 17.8 psi)
	After using cap	78.5 kPa (0.8 kgf/cm <sup>2</sup> , 11.4 psi)

## TORQUE SPECIFICATIONS

### COOLANT

Part Tightened	N*m	kgf*cm	ft.*lbf
Cylinder block drain cock plug x Cylinder block	12.7	130	10

### WATER PUMP

Part Tightened		N*m	kgf*cm	ft.*lbf
Water pump x Cylinder block	for bolt A	21	214	15
	for bolt B	9.0	92	80 in.*lbf
	for bolt C	9.0	92	80 in.*lbf
V-ribbed belt tensioner assembly x Cylinder block		43	438	32
No. 2 idler pulley sub-assembly x Cylinder block		43	438	32
Water pump pulley x Water pump		21	214	15
Water inlet housing x Cylinder block		10	102	7
Radiator reservoir tank x Body		5.0	51	44 in.*lbf

### THERMOSTAT

Part Tightened	N*m	kgf*cm	ft.*lbf
Water inlet x Water inlet housing	10	102	7

### COOLING FAN MOTOR

Part Tightened	N*m	kgf*cm	ft.*lbf
No. 1 and No. 2 cooling fan motor x Fan shroud	3.9	40	35 in.*lbf
Fan x No. 1 and No. 2 cooling fan motor	6.3	64	55 in.*lbf

### RADIATOR

Part Tightened	N*m	kgf*cm	ft.*lbf
Fan shroud with cooling fan x Radiator	10.5	107	8
Upper radiator support x Radiator support LH and RH	29	296	21
No. 2 fan shroud x Radiator	10.5	107	8
Upper radiator support bracket x Upper radiator support	19	194	14
No. 1 water by-pass pipe x Upper radiator support	9.0	92	80 in.*lbf